



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/539,741

01/19/2006

Derek Turner

25266-101943

5881

28886

7590

02/02/2009

CLARK HILL, P.C.

500 WOODWARD AVENUE, SUITE 3500

DETROIT, MI 48226

EXAMINER

MAI, HAO D

ART UNIT

PAPER NUMBER

3732

MAIL DATE

DELIVERY MODE

02/02/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/539,741	<b>Applicant(s)</b> TURNER, DEREK	
	<b>Examiner</b> HAO D. MAI	<b>Art Unit</b> 3732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,11-32 and 35-39 is/are pending in the application.
- 4a) Of the above claim(s) 15-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,11-14 and 35-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/03/2008</u>  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/03/2008 has been entered.

### ***Claim Rejections - 35 USC § 112:***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claims 4-6 and 12-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement.** The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 4 and 12 each recites the torque lock having a cylindrical bore for receiving the torque lock portion of the tool shaft. However, this cylindrical bore would contradict with the independent claims 1 and 7, which claim the torque lock of the spindle and the torque lock portion of the tool shaft to be complementary non-circular cross-section.

The claims are rejected under prior arts as best understood: cylindrical bore is interpreted as the bore is being cylindrical longitudinally but the bore's cross-section may be non-circular.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –  
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1, 7, 36, and 38, are rejected under 35 U.S.C. 102(b) as being anticipated by Odrich (5,000,684).**

Regarding claim 1, Odrich discloses a dental handpiece 10 (Fig. 10) for use with a rotatable tool 20 (as shown in Fig. 6). The tool 20 is shown to have tool shaft 66 for insertion into the handpiece, the tool shaft having a torque lock portion 78/80 of non-circular cross-section. The handpiece 10 comprises: a handle portion 12, a drive head 14 connect with the handle portion and forming a drive housing; and a drive/gear 42 rotatably supported in the drive housing for rotation about an axis of rotation (Figs. 1, 6). The drive/gear 42 is shown to have an axial bore (that receives chuck 18). The handpiece further comprises a torque transfer arrangement received in the axial bore of the drive 42 for transferring torque generated by the drive 42 to the rotatable tool 20. The torque transfer arrangement including a spindle/chuck 18 received in the axial bore of the drive 42 and having an axial tool bore 68 for receiving the tool shaft 66; the spindle is connected to the drive 42 for torque transmission (Fig. 6).

In an embodiment shown in Figure 11, Odrich discloses the spindle/chuck 18 having an axial tool bore 98 comprising two independent features: (1) a tool retaining arrangement being recess 92 for releasably retaining the tool shaft 88 in the axial tool bore 98 against axial movement; and (2) a torque lock (its being polygonal) for concentrically receiving the complementary polygonal/non-circular torque lock portion of the tool shaft 88 to prevent rotation of the tool shaft relative to the spindle while permitting axial insertion of the tool shaft into the handpiece.

Art Unit: 3732

Regarding claim 7, Odrich discloses all the elements as claimed for a torque transfer arrangement as detailed above with respect to claim 1.

Regarding claim 36, Odrich discloses all the elements as claimed as detailed above with respect to claim 1. Note that the disclosed recess 92 and protrusion 90 (Figure 11) are a pair of complementary interengaging element respectively incorporated into the spindle and the tool shaft as claimed.

Regarding claim 38, Odrich discloses all the elements as claimed as detailed above with respect to claim 1.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 3-6, 11-14, and 35, are rejected under 35 U.S.C. 103(a) as being unpatentable over Odrich (5,000,684).**

Regarding claims 3 and 11, Odrich discloses the invention substantially as claimed except for the non-circular cross-section of the torque lock of the spindle and of the torque lock portion of the tool shaft being triangular cross-section. Odrich discloses the non-circular cross-section to be a square cross-section (Figs. 8, 11). Nonetheless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Odrich by changing the non-circular square cross-section to be triangular cross-section since such modification is merely a change in shape and/or configurations, which is a matter of design choice well within the skill of an artisan in order to obtain optimum results. See *MPEP* § 2144.04.

Regarding claims 4-6, 12-14, and 35, Odrich discloses the invention substantially as claimed including the torque lock being cylindrical-shaped longitudinally. However, Odrich fails to disclose the torque lock having a torque transfer member extending radially inwardly into the axial tool bore. In another word, Odrich fails to disclose a protrusion formed in the bore 98. Instead Odrich shows a recess 92. Nonetheless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Odrich by making the recess 92 a protrusion and the protrusion 90 a recess since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. *In re Einstein*, 8 USPQ 167. Note that such protrusion and recess make a pair of complementary interengaging elements respectively incorporated into the spindle and the tool shaft.

**8. Claims 37 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Odrich in view of Quinn (5,924,865).**

Odrich discloses the invention substantially as claimed except for the drive is part of a drive unit including a turbine, a pair of axially spaced apart bearings. Instead Odrich disclose the drive to be a gear.

Quinn discloses a dental/medical device operated by a gear system and a pair of axially spaced apart bearings 43, 45 (Fig. 2); Quinn further discloses that such gear could be replaced with a turbine system (column 8 lines 60-64). It is also well known in the art of medical/dental handpieces that a turbine system may be used in place of gear system to operate a handpiece. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Odrich by substituting the gear system with a turbine system as a suitable alternative operating system while still obtaining the same and/or predictable results (*KSR*).

***Response to Arguments***

9. Applicant's arguments filed 11/03/2008 have been fully considered but are moot in view of new ground(s) or rejection. Applicant's arguments/remarks regarding the amendments to the claims are held to be responded to in the above newly applied reference to Odrich.

***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAO D. MAI whose telephone number is (571)270-3002. The examiner can normally be reached on Monday-Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris Rodriguez can be reached on (571) 272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hao D Mai/  
Examiner, Art Unit 3732

/Cris L. Rodriguez/  
Supervisory Patent Examiner, Art Unit 3732